ORDER NO. VRD8701203

Service Manual

AC Adaptor

Summary
Operating Instructions
Circuit Descriptions
Electrical Adjustment Procedures
Block Diagram
Schematic Diagrams
Circuit Board Diagrams
Exploded Views
Replacement Parts Lists

National/Panasonic
Professional/Industrial Video
VHS

AG-B640 -E -B -A -EN

SPECIFICATIONS

ITEM	SPECIFICATION
Power	Source : AC110/120/220/240V, 50~60Hz Consumption : Approx. 90watts
DC Output	DC12V, 4.0A DC12V, 1.6A (charging)
Weight	Approx, 4.2Kg (9.3lbs.)
Dimention	146×95×240mm 5-3/4"(W)×3-3/4"(H)×9-1/2"(D)

Weight and dimensions shown are approximately.
Specifications are subject to change without notice.

National/Panasonic
Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

INTRODUCTION

This Service Manual contains all the technical information which will allows service personnels to understand and service this National/Panasonic video product.
This product has many special Features as described later.

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WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

NOTE:
The rating plate (serial number plate) is on the bottom of the unit.

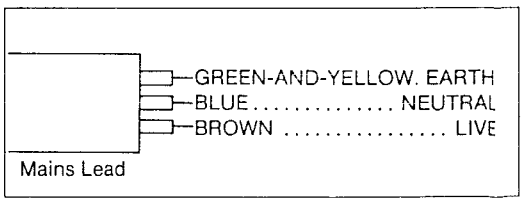
CAUTION: TO PREVENT FIRE OR SHOCK HAZARD AND ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.

SAFETY PRECAUTIONS

1. THIS APPARATUS MUST BE EARTHED.
To ensure safe operation the three-pin plug supplied (not U.K. model) must be inserted only into a standard three-pin power point which is effectively earthed through the normal household wiring.
Extension cords used with the equipment must be three-core and be correctly wired to provide connection to earth. Wrongly wired extension cords are a major cause of fatalities.
The fact that the equipment operates satisfactorily does not imply that the power point is earthed and that the installation is completely safe.
For your safety, if in any doubt about the effective earthing of the power point, consult a qualified electrician.

2. VOLTAGE SELECTOR SETTING.
The power cord of this unit must be disconnected from mains before the voltage selector is changed.
Before connecting to the power supply, ensure that the selector on the rear panel is selected to the same voltage as your local power supply.
The voltage selector can be adjusted, if necessary, by using a screwdriver, but this adjustment must be made after disconnecting the power cord.

3. AC POWER CORD CONNECTION. (AG-B640 U.K. only)
The wires in mains lead for this apparatus are coloured in accordance with the following code.



As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:
The wire which is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ or coloured GREEN or GREEN-AND-YELLOW. The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured black. The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured red.

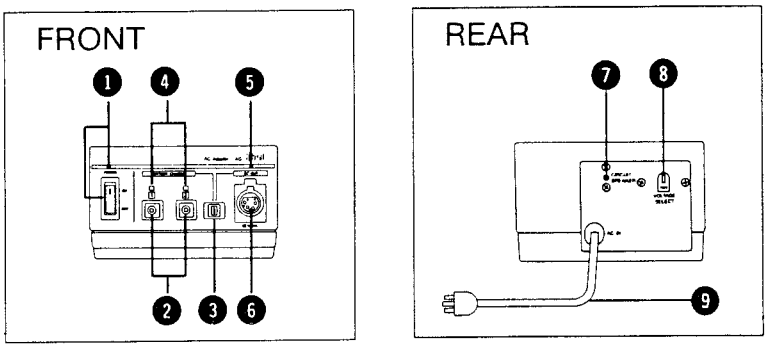
1. OPERATING INSTRUCTIONS

Features

- Maximum power rating of 48W can be supplied.
- Two battery packs can be charged quickly at the same time (in about 3 hours).
- DC cables of 4P-XLR for commercial use are applicable.
- Power can be supplied directly to the video camera.

Note: The AG-B640 is for use exclusively with the AG-6400 portable VTR and VW-VB30E Battery Pack. It will not provide power for any other VTR, nor will it recharge any other battery pack.

Controls and their Functions



Front

❶ Power Switch/Indicator lamp
When the power is turned ON, power will be supplied to the AC Adaptor, and the indicator lamp will light.

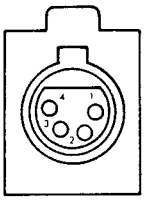
❷ Battery Charging Connector
Connect to the battery pack.

❸ Mode Selector Switch
BATTERY CHARGE: Set to this position when charging a battery pack.
DC OUT: Set to this position when using the AC Adaptor as a power supply.

❹ Charging Indicator Lamp
This lamp is lit while a battery pack is being charged. It will go out when charging is completed.

❺ DC Output Indicator Lamp
This lamp is lit while DC power is output from the AC Adaptor.

❻ DC Output Connector
Connect to the DC Input Connector of a portable video recorder or video camera.



1. GND
2. NC
3. NC
4. +12V (4.0A)

Rear

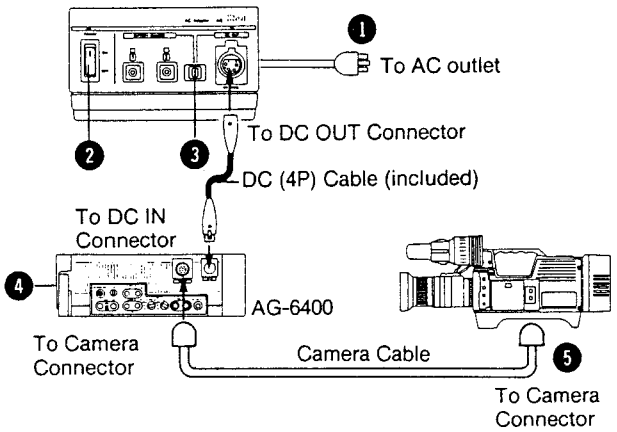
❼ Circuit Breaker
This functions when an excessive current flows. Turn off the Power Switch, and turn on the Power Switch again, and press the Circuit Breaker Button about 10 seconds later, the power is then reset.
Note: If the power is not restored, consult your local dealer.

❽ Voltage Selector
This selector can be set for 110, 120, 220, 240 V operation. If it is necessary to change the voltage consult page 2.

❾ Power Cord
Connect to an AC Outlet.

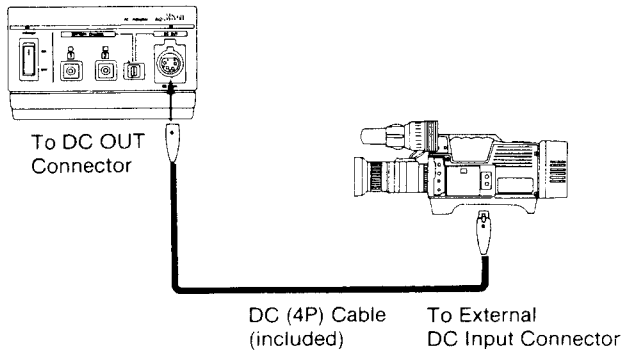
Using the AC Adaptor as a Power Supply

Before connecting the AC Adaptor, turn OFF the power of all units.



- For connecting camera cable, use cable which matches your camera.
  For details, consult your local dealer.

The AC Adaptor can also supply power to the video camera.
Note that the AC Adaptor cannot supply power to a VTR via a camera.

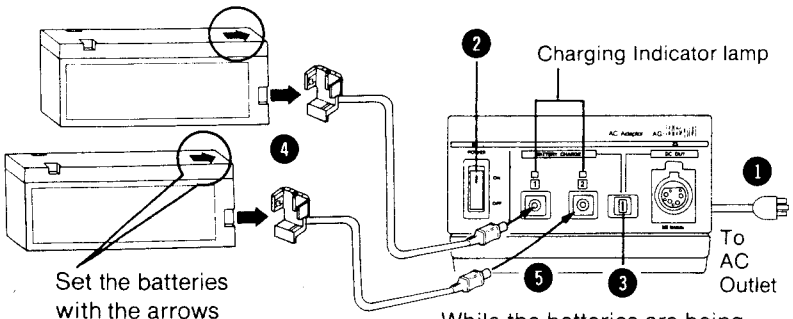


Notes:

- With the included DC Cable (3m) or a Camera Cableof up to 10m, a video camera of about 30W may be used.
  The video camera may not operate in some cases if a long DC Cable is used.
- The protective circuit of this unit functions when an excessive current flows to the video recorder or video camera.
  Remove the connected equipment, turn off the Power Switch, turn on the Power Switch again, then press the Circuit Breaker Button about 10 seconds later.
- This unit cannot charge the battery pack incorporated into the video recorder.

Using the AC Adaptor as a Battery Pack Charger

You can simultaneously charge two VW-VB30E battery packs.



Set the batteries with the arrows uppermost, and charge them.

While the batteries are being charged, the indicator lamp will be lit, and when charging is completed, the lamp will go out.

Required charging time
One battery .....about 90 min
Two batteries ....about 180 min

Notes:

- While charging the battery packs, do not place them against the AC Adaptor.
- If, while the battery pack is being charged, the other battery is connected to the charging connector, charging lamp first connected may go off for some time, but this is not a malfunction.
- To ensure that the battery packs are adequately charged, turn ON the power switch of the AC Adaptor before connecting the battery packs to the charging connectors.
- When battery packs are charged, the Battery Charging Lamp goes off.
  To make the battery packs long lived, however, it is advisable to keep charging about twice the time required.

2. DISASSEMBLY METHOD

1. Unscrew the 2 screws (A) and remove the Handle. Then lift the top case and remove it.

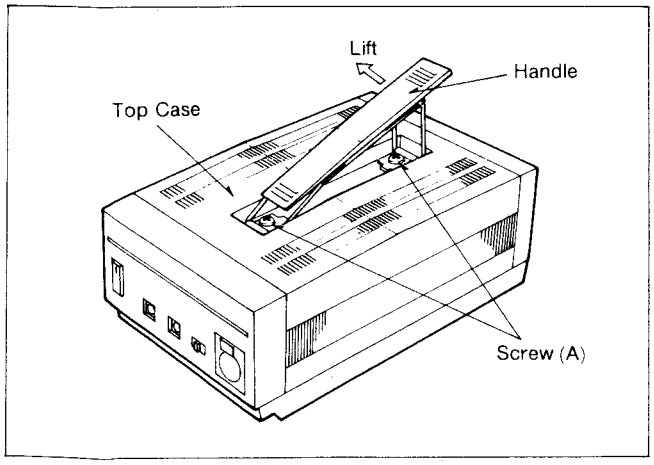


Fig-1

2. Unscrew the 4 screws (B) and remove the Bottom Panel.

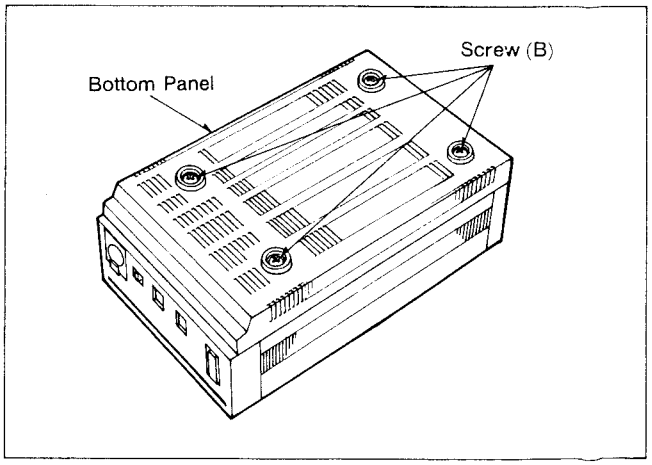


Fig-2

3. Unscrew the 2 screws (C) and remove the Front Panel.

4. Unscrew the 2 screws (D) and remove the Main C.B.A.

5. Unscrew the 4 screws (E) and remove the Handle Angle.

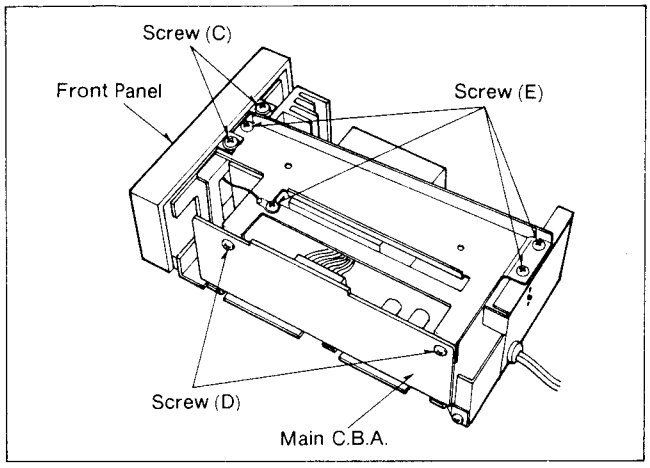


Fig-3

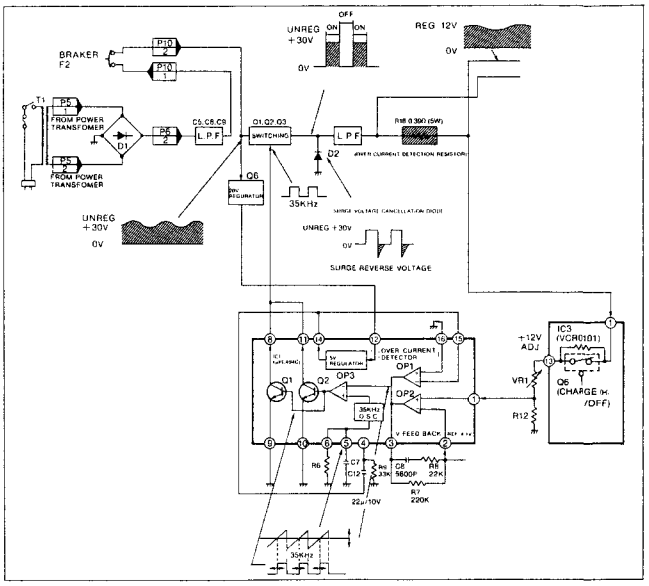


Fig-1

3. CIRCUIT DESCRIPTIONS

This AC Adaptor employs a switching regurator to supply a stable +12V to AG-6400.

1. Switching Regurator Circuit

The simplified block diagram is shown in Figure 1.

(1) The rectifired current at pin 2 of P10 is smoothed by L.P.F. C5, C6 and C9, and then this current is supplied to the AG-6400 or battery.

(2) At the same time, this +B is also supplied to IC1-1 through Q6 inside IC1, and VR1.

(3) The output of OP2 inside IC1 is supplied to (-) side of OP3. The 35KHz sawtooth wave signal is supplied to (+) side of OP3. Consecuentry, output of OP3 becomes square wave as shown in Figure 1, and then this signal is finaly supplied to switching transistor Q1 through switching transistors Q1 and Q2 inside IC1.

(4) The pulse is generated by switching operation of Q1, Q2 and Q3, and this pulse is rectifired by D2, L2, C21 and C13.

(5) The above way, the +B is always Maintained +12V.

For example.....

(a) The voltage at IC1-1 is decreased and this voltage is supplied to (+) side of OP2, and then (-) side of OP3 is also decreased.

(b) By means of this comparison the OP3, high period of output becomes longer so that the turning ON period of switching transistor Q1, Q2 and Q3 become longer, consequently, more current flow.

2. Charge Mode

(1) When the power switch is turned ON and DC/Battery switch is turned to battery position, the unit will be in the battery charge mode.

(2) In the charge mode, IC3-22 becomes low. Consequently, Q1 inside IC3 is turned OFF, high voltage is applied to (-) side of OP1 inside IC3 through IC3-1 from the switching regurator. Then C20 is charged. The (-) side of OP1 is lower than (+) side during initial charging time. Therfore, the output of OP1 becomes high and Q2, Q3 inside IC3 are turned ON. By means of turning ON Q3, high voltage (20V) flows to OP2 (+) side through IC3-11, 10 , VR2 and IC3-8 from 20V regurator Q6, therefore, this high signal is supplied to IC1-2 through OP2, Q4 inside IC3 and IC3-14.

(3) As previously stated high voltage is generated at the switching regurator output and peak charging is performed momentary.

(4) By means of turning on the Q2 as item (2), IC3-6 becomes low and C14 is discharged.

(5) When charging of C20 is completed and (-) side of OP1 becomes High and Q2, Q3 inside IC3 are turned OFF.

(6) By means of turning OFF Q3 inside IC3, the signal which is supplied to OP2 through IC3-11 is switched to signal from FET inside IC2 through IC2-3, IC3-9. In this time, high voltage is supplied from IC2-4 to IC2-5 snd C14 is charged gradually.
When gate of FET inside IC2 becomes certain voltage, the gate voltage of FET is maintained the constant level by operating the D21. Consequently, current which is flowing into FET becomes constant current charging is performed. By means of this current, output voltage is increased gradualy.

(7) CHARGE LED DRIVE----The voltage of IC3-16 flows to IC3-1 through R18 and is supplied to OP3. In this time. voltage of OP3 (+) side is higher than (-) side and output of OP3 becomes high, consequently, Q5 is turned on and (-) side of OP4 becomes high, (+) side is kept to about 4.1V as the Reference Voltage. Output of OP4 becomes low level and charge.
LED is lighted up during charge mode. Namely, charge LEDs are controlled by voltage drop at R62 and R63.

(8) When output voltage becomes 14.75V, IC2-11 becomes high and two transistors of inside IC2 are turned on.
As voltage which is supplied to gate of FET is cut off, constant-current charge mode is finished.

(9) Then C14 is discharged gradually.
The current which is flowed through FET is controlled by charged voltage of C14 until discharged is completed.
This discharging will be continued about 45minutes.
This "time constant" is decided by C14 and TH2. FET is turned off after discharge. And unit will be trickle current mode.

(10) When FET is turned off, current from IC2-4 is passed through resistor network and supplied to OP2 inside IC3 through IC2-3, IC3-9 and IC3-10 VR2 and IC3-8.
This low current (output) drives OP2 then the charge current is about 40mA. In order to prevent the discharge of battery after finished the charge, trickle current is always supplied to battery.

(11) During trickle current mode, voltage drop of R18 is small and output of OP3 becomes low, consequently, charge LED signal at IC3-20 goes high.

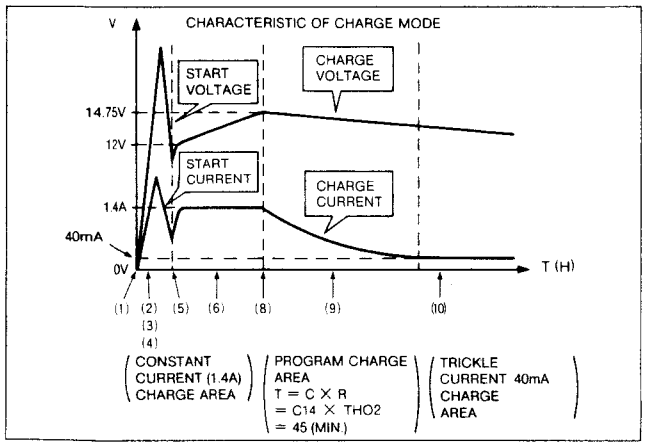


Fig-2

4. ELECTRICAL ADJUSTMENT PROCEDURES

This section provides complete electrical adjustment procedures which may be required for electronic circuit of the AC Adaptor AG-B640.

4-1. TEST EQUIPMENTS

To perform the electrical adjustment completely following equipment are required.

1. D.V.M. (Digital Volt Meter)
   Voltage Range : 0.001~50V
2. Oscilloscope
   Voltage Range : 0.005~50V/div
3. DC Ammeter
   Current Range : 0~10A
4. DC Voltmeter
   Voltage Range : 0~20V
5. Plastic Tip Driver
6. Resistor (3.25ohm/100W)
7. Variable Resistor (10ohm/5A)
8. DC Power Supply (5A/20V)

4-2. POWER SUPPLY OUTPUT VOLTAGE ADJUSTMENT

TP	ADJ	MODE	INPUT
CONNECTOR (1),(4)	VR1	DC OUT	--------
TAPE	M.EQ,	SPEC	
------	D.V.M.	13.0+-0.5V	

(1) Set the Mode Select Switch to "DC OUT" position.

(2) Connect a resistor (3.25ohm/100W) between pin (1) and (4) of the DC output connector.

It is also available to use 4 pieces of 13 ohm/25W resistors in parallel use or equivalent, instead of 3.25 ohm/100W resistor.

4-3. INITIAL CHARGE CURRENT AND SCHMITT VOLTAGE ADJUSTMENT

TP	ADJ	MODE	INPUT
BATTERY HOLDEER(+) (-)	VR2 VR3	BATTERY CHARGE	--------
TAPE	M.EQ,	SPEC	
------	DC AMMETER	A=1.6+-0.05A V=15.55-0.03t +-0.1V (t: Ambient Temperature)	

(1) Set the Mode Switch to "BATTERY CHARGE" position.

(2) Make the connection as shown below.

(3) Turn VR3 fully counter clockwise.

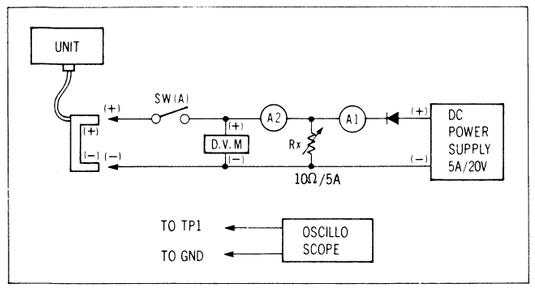


Figure 1

(4) Adjust the output of the DC Power Supply so that the indication of the D.V.M. becomes 14.0V and adjust Rx so that the indication of DC Ammeter(A1) becomes 3A.

(5) Turn on the SW(A).

(6) Adjust VR2 so that the indication of the DC Ammeter(A2) becomes 1.6 +− 0.05A.

(7) Adjust the output of the DC Power Supply so that the indication (V) of the D.V.M. becomes

V = 15.55−0.03t +− 0.1 (V)
t: Ambient Temperature

For exsample : V = 15.55 (V)
(at 25 degree C)

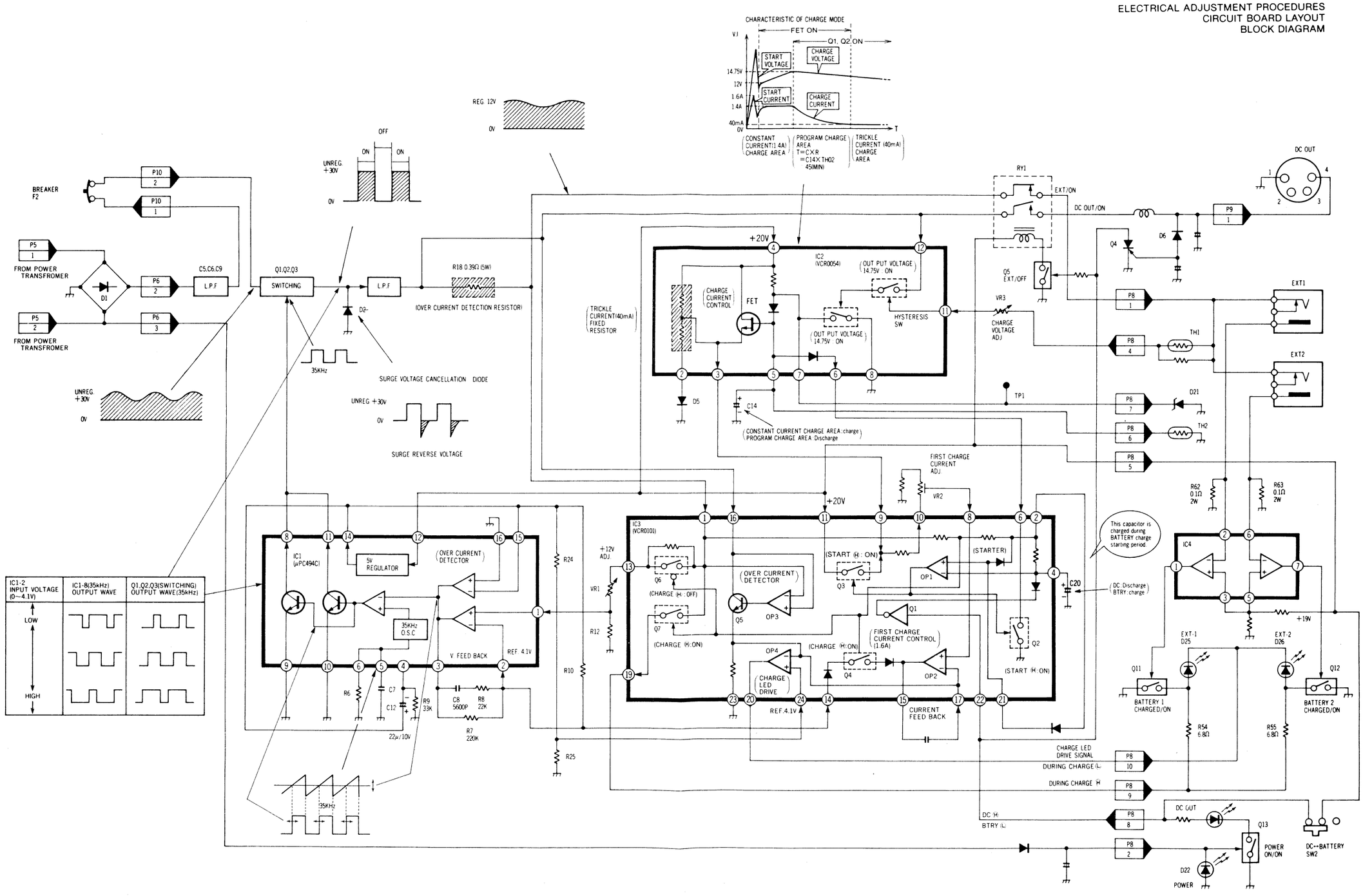
(8) Adjust VR3 so that the signal level at TP1 becomes "Low (about 0.5V)" from "High (about 15V)".

(9) Adjust the output of the DC Power Supply so that the indication of the D.V.M. becomes less than 13.2V and comfirm the signal level at TP1 is "High" from "Low".

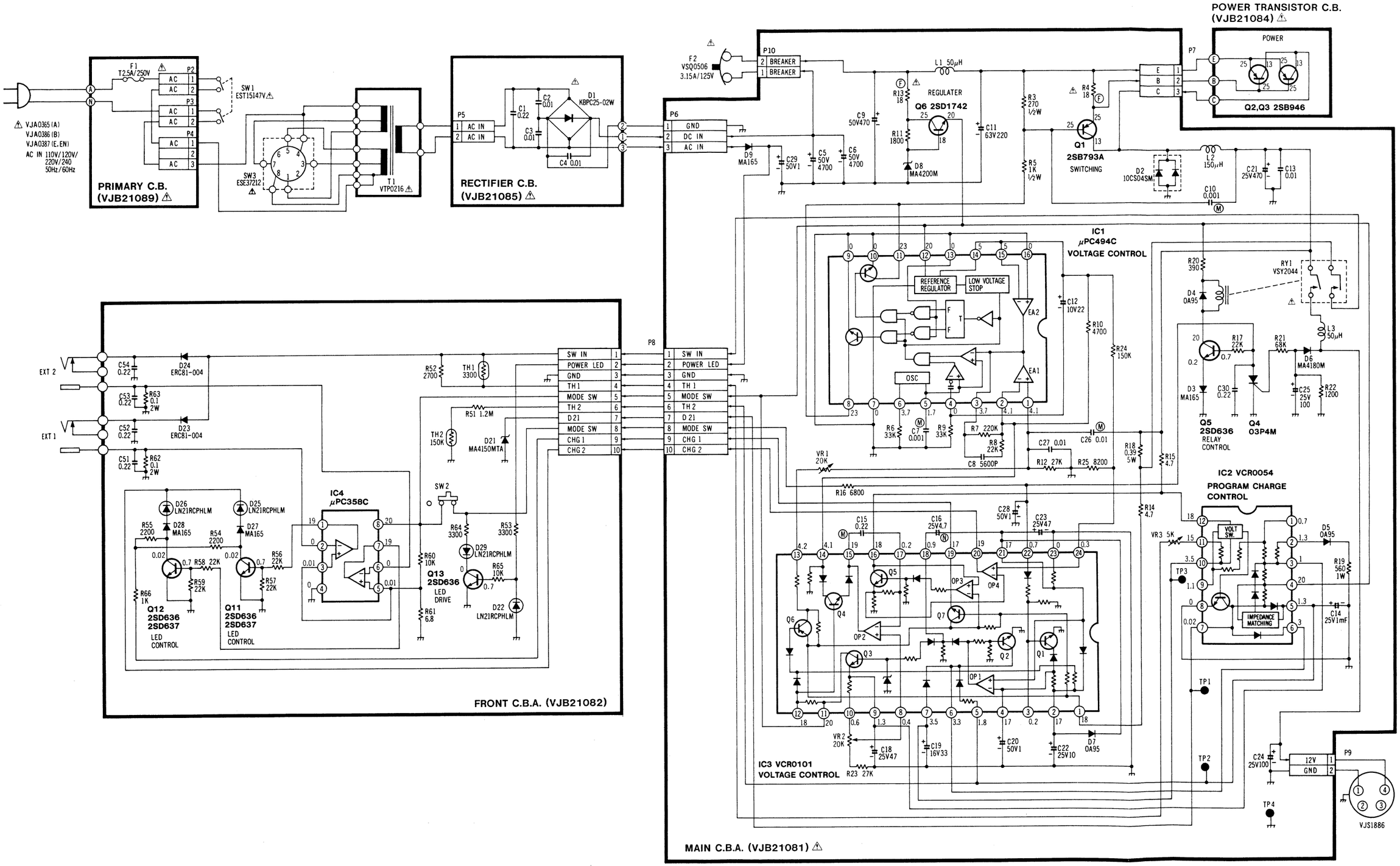
It is also available to use a resistor 10 ohm/5A or 2 pieces of 20 ohm/2A resistors in parallel use

Memo

5. BLOCK DIAGRAM

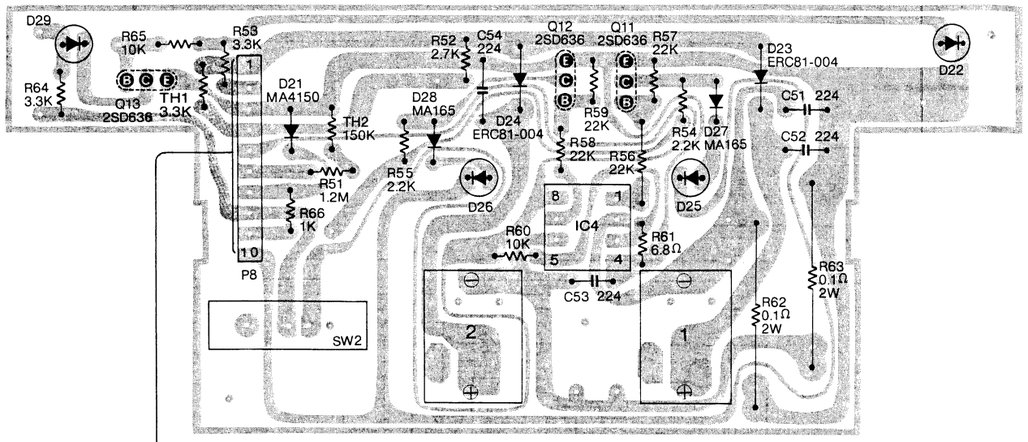


6. SCHEMATIC DIAGRAM

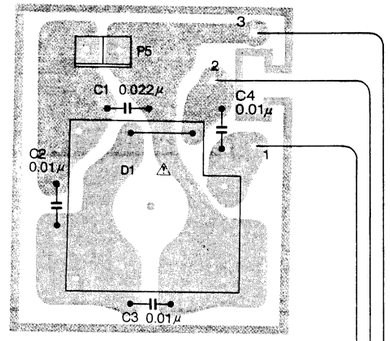


7. CIRCUIT BOARD DIAGRAMS

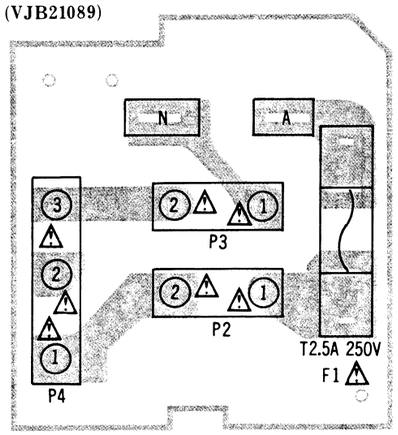
FRONT CIRCUIT BOARD(VJB21082)



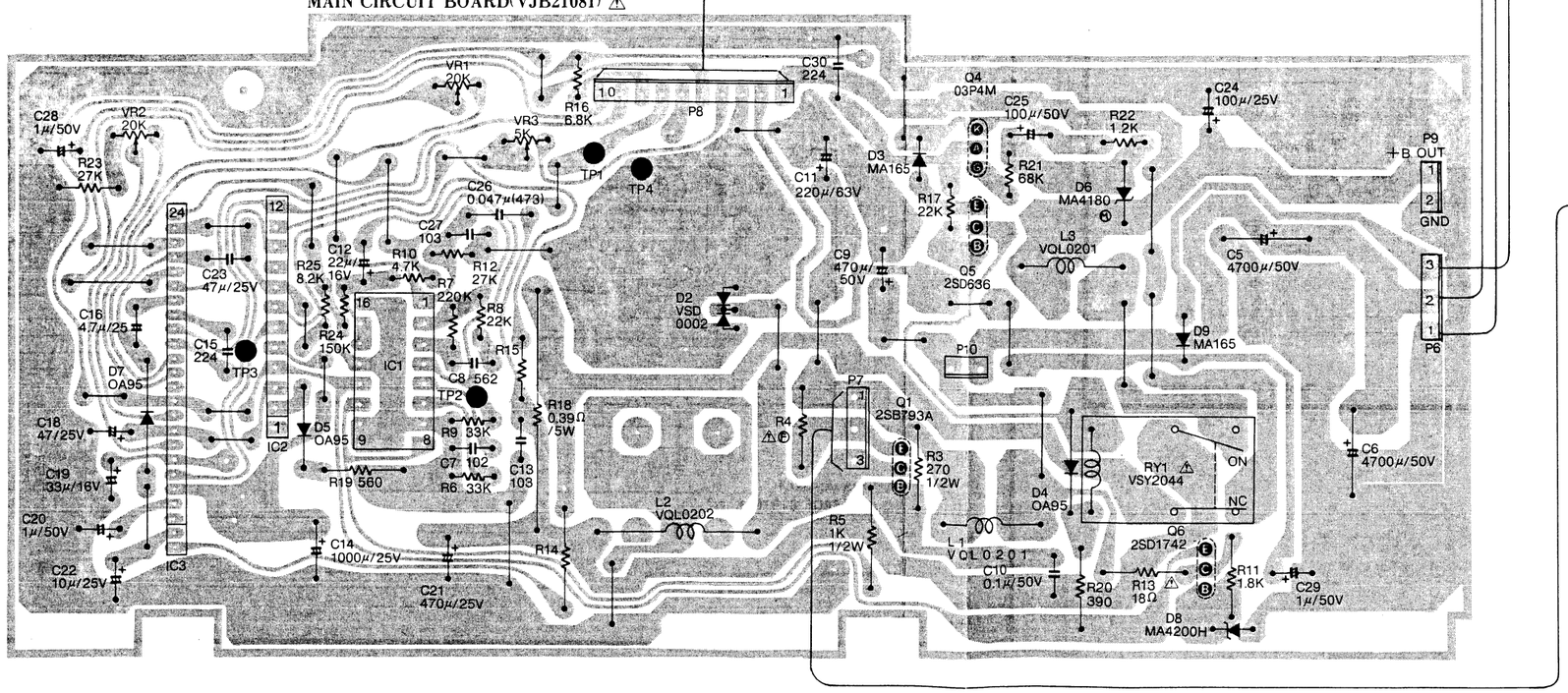
RECTIFIER CIRCUIT BOARD ⚠
(VJB21085)



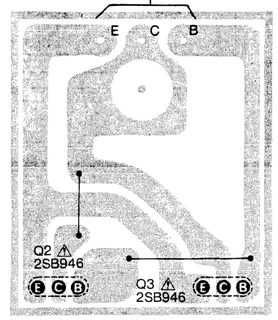
PRIMARY CIRCUIT BOARD ⚠
(VJB21089)



MAIN CIRCUIT BOARD(VJB21081) ⚠

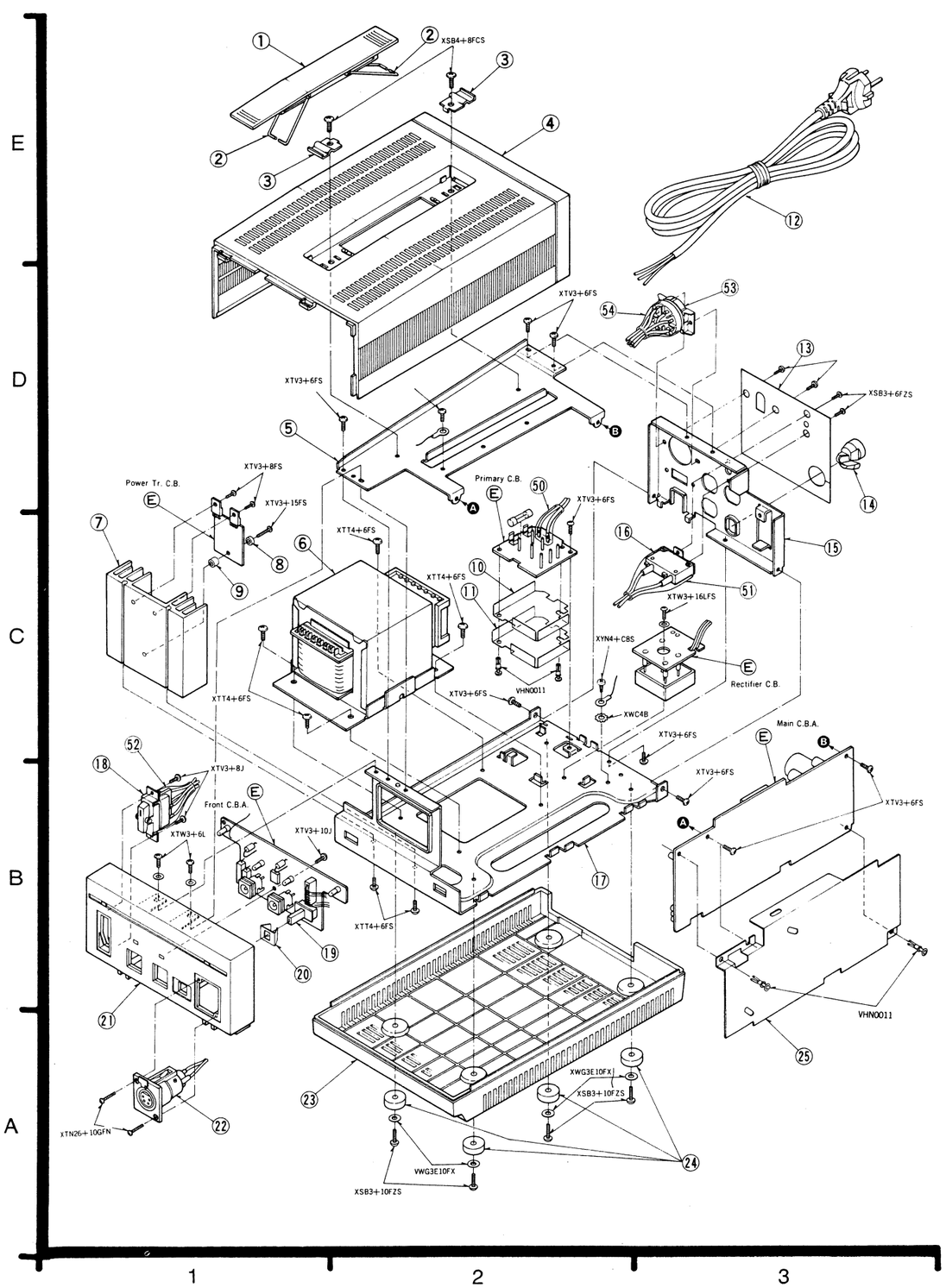


POWER TRANSISTOR CIRCUIT BOARD ⚠
(VJB21084)

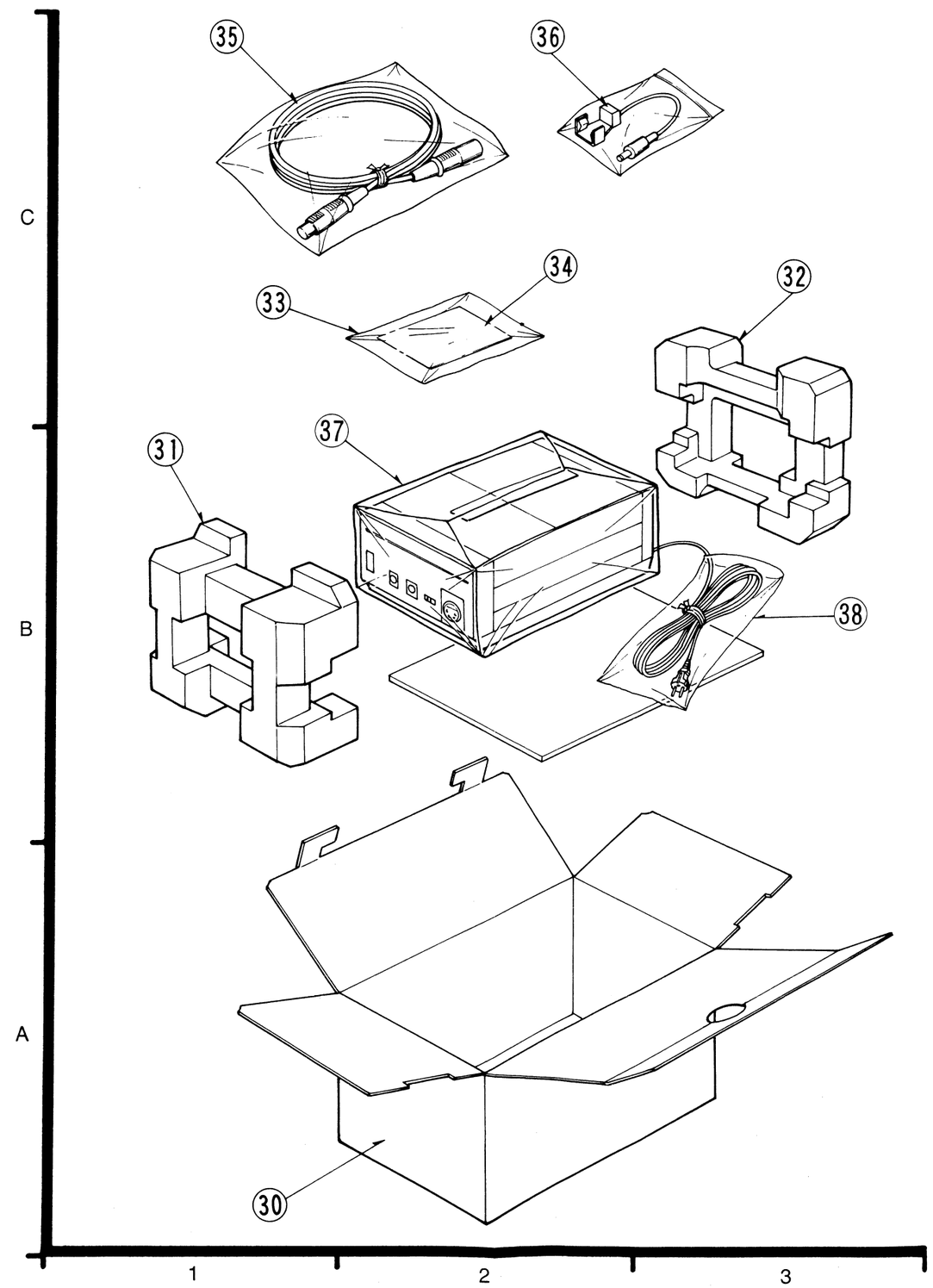


8. EXPLODED VIEWS

❶ CHASSIS & FRAME SECTION



❷ PACKING PARTS SECTION



9. REPLACEMENT PARTS LIST

Notes:
1. • Be sure to make your orders of replacement parts according to this list.
   • "< R >" in Remark column indicates recommended parts.
2. IMPORTANT SAFETY NOTICE
   Components identified by "< ! >" have special characteristics important for safety.
   When replacing any of these components, use only the original ones.
   Meaning of simbol < ! > on this parts list is exactly same as simbol ⚠ on Schematic and Circuit Board Diagrams.
3. Unless otherwise specified:
   All resistors are in OHMS (Ω), K=1,000Ω, M=1,000 KΩ.
   All capacitors are in MICROFARADS (μF), P=μμF.
4. C.B.A. or C.B. marked with " • " show below the main assembled parts.
5. When ordering parts, use part No. only from Part No. column.

Mechanical Replacement Parts List

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
1(1)		YKH0162	Handle	1	<R>
2(1)		VMA5775	Handle Mount Angle (A)	2	
3(1)		VMA5776	Handle Mount Angle (B)	2	
4(1)		VGP1475	Top Case	1	<R>
5(1)		VMP0929	Handle Angle	1	
6(1)		VTP0216	Power Transformer	1	<R> <!>
7(1)		VSC1716	Heat Sink Plate	1	
8(1)		VMX1039	Spacer	1	
9(1)		VMX1040	Spacer	1	
10(1)		VMZ0791	Barrier (1)	1	<!>
11(1)		VMZ0804	Barrier (2)	1	<!>
12(1)		VJA0387	AC Cord	1	<R> <!> AG-B640-E/EN
12(1)		VJA0386	AC Cord	1	<R> <!> AG-B640-B
12(1)		VJA0365	AC Cord	1	<R> <!> AG-B640-A
50(1)		VMX0285	AC Cord Cover	1	<!>
13(1)		VGH1122	Rear Decoration	1	<R>
14(1)		VMX0998	Bushing	1	<!>
15(1)		VMA6136	Rrar Frame	1	
16(1)		VSQ0506	Breaker	1	<R> <!>
51(1)		VMZ1004	Breaker Cover	1	<!>
17(1)		VMK0259	Chassis Frame	1	
18(1)		VSW0031	Power Switch	1	<R> <!>
52(1)		VMZ0580	Power Switch Cover	1	<!>
19(1)		VGU1026	Switch Knob	1	
20(1)		VMX1012	SW Knob Spacer	1	
21(1)		VYP1790	Front Panel Unit	1	<R> AG-B640-E/B
21(1)		VYP1800	Front Panel Unit	1	<R> AG-B640-A/EN
22(1)		VJS1886	4P Connector	1	
23(1)		VKU0171	Bottom Panel	1	<R>
24(1)		VKA0023	Rubber Foot	4	
25(1)		VMZ0850	Barrier	1	
53(1)		ESE37212	Vohage Change-Over Switch	1	<!>
54(1)		VMX0235	Vohage Change-Over Switch	1	<!>
			Cover		
30(2)		VPG2997	Packing Case	1	<R> AG-B640-A
30(2)		VPG2998	Packing Case	1	<R> AG-B640-B
30(2)		VPG2999	Packing Case	1	<R> AG-B640-E
30(2)		VPG3000	Packing Case	1	<R> AG-B640-EN
31(2)		VPN0727	Cushion (Front)	1	
32(2)		VPN0728	Cushion (Rear)	1	
33(2)		VQT1970	Operating Instruction	1	<R> <!> (ENGLISH)
33(2)		VQT1969	Operating Instruction	1	<R> <!> AG-B640-E
					(GERMAN,FRENCH)
34(2)		VPN1621	Cushion (Bottom)	1	
35(2)		VJA0370	DC Cord	1	<R> <!>
36(2)		VJA0180	Battery Catcher	2	<R>
37(2)		VPF0165	Polyethylene Bag	1	
38(2)		VPF0220	Polyethylene Bag	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks

Electrical Replacement Parts List

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEP21081A	MAIN C.B.A.	1	<R>
		VEP21082A	FRONT C.B.A.	1	<R>
		VEP21089A	PRIMARY C.B.A.	1	<R> <!>
		VEP21084A	POWER TR. C.B.A.	1	<R> <!>
		VEP21085A	RECTIFIER C.B.A.	1	<R>
		VEP21081A	MAIN C.B.A.	1	<R>
			INTEGRATED CIRCUITS		
IC1		UPC494C		1	<R>
IC2		VCR0054		1	<R>
IC3		VCR0101		1	<R>
			TRANSISTORS		
Q1		2SB793A		1	<R>
Q4		03P4M		1	<R>
Q5		2SD636		1	<R>
Q6		2SD1742		1	<R>
			DIODES		
D2		10CS04SM		1	<R>
D3		MA165		1	<R>
D4,5		OA95		2	<R>
D6		MA418CM		1	<R>
D7		OA95		1	<R>
D8		MA420CM		1	<R>
D9		MA165		1	<R>
			RESISTORS		
R03		ERDS1TJ271	270	1	
R04		ERQ14AJ180P	18	1	<R> <!>
R05		ERDS1TJ102	1K	1	
R06		ERDS2TJ333	33K	1	
R07		ERDS2TJ224	220K	1	
R08		ERDS2TJ223	22K	1	
R09		ERDS2TJ333	33K	1	
R10		ERDS2TJ472	4.7K	1	
R11		ERDS2TJ182	1.8K	1	
R12		ERDS2TJ273	27K	1	
R13		ERQ14AJ180	18	1	<R> <!>
R16		ERDS2TJ682	6.8K	1	
R17		ERDS2TJ223	22K	1	
R18		ERF5AKR39	0.39	1	
R20		ERDS2TJ391	390	1	
R21		ERDS2TJ683	68K	1	
R22		ERDS2TJ122	1.2K	1	
R23		ERDS2TJ273	27K	1	
R24		ERDS2TJ154	150K	1	
R25		ERDS2TJ822	8.2K	1	
R14		ERQ14AJ4R7	4.7	1	
R15		ERQ14AJ4R7	4.7	1	
R19		ERO25CKF5600	560	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			VARIABLE RESISTORS		
VR1,2		EVN50AA00B24		2	
VR3		EVN50AA00B53		1	
			CAPACITORS		
C05,06		ECES1HU472M	ELECTROLYTIC 50V 4700	2	
C07		ECQM1H102KV	MYLAR 50V 1000P	1	
C08		ECQB1H562JZ	MYLAR 50V 5600P	1	
C09		ECEA1HGE471	ELECTROLYTIC 50V 470	1	
C10		ECQM1H102KV	MYLAR 50V 1000P	1	
C11		ECEA1JGE221	ELECTROLYTIC 63V 220	1	
C12		ECEA1CU220	ELECTROLYTIC 16V 22	1	
C13		ECKD1H103ZF	CERAMIC 50V 0.01	1	
C14		ECEA1EM102T	ELECTROLYTIC 25V 1000	1	
C15		ECQV1H224JZ	MYLAR 50V 0.22	1	
C16		ECEA1EN4R7S	ELECTROLYTIC 25V 4.7	1	
C18		ECEA1EU470	ELECTROLYTIC 25V 47	1	
C19		ECEA1CS330	ELECTROLYTIC 16V 33	1	
C20		ECEA1HU010	ELECTROLYTIC 50V 1	1	
C21		ECEA1EG471S	ELECTROLYTIC 25V 470	1	
C22		ECEA1ES100	ELECTROLYTIC 25V 10	1	
C23		ECEA1EU470	ELECTROLYTIC 25V 47	1	
C24,25		ECEA1EU101	ELECTROLYTIC 25V 100	2	
C26		ECQB1H103JZ	MYLAR 50V 0.01	1	
C27		ECKD1H103ZF	CERAMIC 50V 0.01	1	
C28,29		ECEA1HU010	ELECTROLYTIC 50V 1	2	
C30		ECQV1H224JZ	MYLAR 50V 0.22	1	
C51-54		ECQV1H224JZ	MYLAR 50V 0.22	4	
			COILS		
L1		VLQ0201	50uH	1	
L2		VLQ0202	150mH	1	
L3		VLQ0201	50uH	1	
			CONNECTORS		
P6,7		VJP1708	3P	2	
P8		VJP1146	10P	1	
P9,10		VJP1564	2P	2	
			RELAY		
RY1		VSY2044		1	<R> <!>
			MISCELLANEOUS		
		VSC1742	HEAT SINC	1	FOR D2
		VEP21082A	FRONT C.B.A.	1	<R>
			INTEGRATED CIRCUIT		
IC4		UPC358C		1	<R>
			TRANSISTORS		
Q11,12		2SD636		2	OR 2SD637 <R>
Q13		2SD636		1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			DIODES		
D21		MA4150M		1	<R>
D22		LN21RCPHLM		1	<R>
D23,24		ERC81-004		2	<R>
D25,26		LN21RCPHLM		2	<R>
D27,28		MA165TA		2	<R>
D29		LN21RCPHLM		1	<R>
			RESISTORS		
R51		ERDS2TJ125	1.2M	1	
R52		ERDS2TJ272	2.7K	1	
R53		ERDS2TJ332	3.3K	1	
R54,55		ERDS2TJ222	2.2K	2	
R56-59		ERDS2TJ223	22K	4	
R60		ERDS2TJ103	10K	1	
R61		ERDS2TJ6R8	6.8	1	
R62,63		ERF2AKR10	0.1	2	
R64		ERDS2TJ332	3.3K	1	
R65		ERDS2TJ103	10K	1	
R66		ERDS2TJ102	1K	1	
			JACKS		
EXT1,2		VJJ0128		2	
			SWITCH		
SW2		ESD14182	BATTERY/DC OUT SELECT SW	1	<R>
			THERMISTOR		
TH1		ERTD2FHL332S		1	<R>
TH2		ERTD2F1L154S		1	<R>
			CONNECTOR		
P8		VJP1146	10P	1	
			MISCELLANEOUS		
		KL04	LED SPACER	4	
		VEP21089A	PRIMARY C.B.A.	1	<R> <!>
			FUSE		
F1		XBA2C25TB0		1	<R> <!>
			MISCELLANEOUS		
		TJC6320	FUSE HOLDER	2	<R> <!>
		VMZ0429	FUSE COVER	1	<!>
		SJT777	AC INPUT TERMINAL	2	
		TEL302	GT PIN	7	<!>
		VEP21084A	POWER TR. C.B.A.	1	<R> <!>
			TRANSISTORS		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q02,03		2SB946		2	<!>
		VEP21085A	RECTIFIER C.B.A.	1	<R>
			DIODE		
D1		KBPC25-02W		1	<!>
			CAPACITORS		
C1		ECQV1H224JZ	MYLAR 50V 0.22	1	
C2-4		ECKW1H103ZF	CERAMIC 50V 0.01	3	
			CONNECTOR		
P5		VJP1564	2P	1	

Order No. VRDSS70302

Service Manual

Supplement

Effective from: First Production

Video Product

Model No. AG-B640-E/B/A/EN
AG-B640 Bulletin No. 1

Subject: Correction of Part List

Please use this manual together with the Service Manual for Order No. VRD8701203
Model No. AG-B640-E/B/A/EN

Please correct the following part numbers in the replacement part list.

Interchangeability Code See the I/C column on the following Part Number list.

	Parts	Set Production			Parts	Set Production			Parts	Set Production			Parts	Set Production		
A	Original	Early	B	C	Original	Early	D	E	Addition
	New	Late			New	Late									F	Deletion
															G	Other

Part Number

Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions		I/C	Remarks
R18	ERF5AKR39	VSF0057	Fusible Resistor	0.39	G	
F1	XBA2C25TBO	XBA2C20TBO	Fuse	2A	G	FOR AG-B640-E/B/A
F1	XBA2C25TBO	Same	Fuse	2.5A	G	FOR AG-B640-EN
TH2	ERTD2F1L154S	ERTD2FIL154S	Thermistor		G	

Panasonic/National

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

Printed in Japan

Order No. VSD9210S647

Service Manual

Supplement

Video Product

Subject: Change of Diode

Please use this supplement together with the Service Manual as follows:

Model No.	Bulletin No.	Order No.	Effective from
AG-B640-E/B/A/EN	1	VRD8701203	

Reason for Change

- ☐ The following part(s) have(has) been changed for serviceability improvement.
- ☐ The following part(s) have(has) been changed for productivity improvement.
- ■ The following part(s) have(has) been changed for standardization purpose.
- ☐ The following part(s) have(has) been changed for the safely regulation.

Interchangeability Code (I/C)

A	Original or new parts may be used in early or late production set. Use original parts until exhausted, then stock new parts.
B	Original parts may be used in early production sets only. New parts may be used in early or late production sets. Use original parts possible then stock new parts.
C	New parts only may be used in early or late production sets.
D	Original parts may be used in early production sets only. New parts may be used in late production sets only. Stock both original and new parts.
E	Other

Part Number

Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	I/C	Remarks
D1	KBPC25-02	GBPC2502W	DIODE	1	A	

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